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SC Water Ways

answering today's water resource challenges for future generations

Resident Canada Geese: Management Options

Nell Orscheln, Clemson Extension Service and Katie Giacalone, Clemson Carolina Clear

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Part Two of a two-part series on resident Canada geese.

Many habitats used by urban populations such as corporate campuses, suburban lawns with stormwater ponds, parks, and golf courses are appealing to geese. If geese are not effectively managed, their population growth is potentially harmful to human health and the environment. Background information can be found in [H2O-013 Resident Canada Geese: Concerns Along the Waterfront](#).

Resident Canada geese management can be organized into four broad approaches:

1. Changing the environment and/or habitat
2. Changing human behavior
3. Changing geese behavior and introducing deterrents
4. Eliminating geese and controlling reproduction

1. Changing the Environment and/or Habitat

Research is beginning to show that the most effective, humane, and environmentally friendly method for goose management is changing the landscape. Communities and homeowners can combine some of the following habitat alteration techniques so as to not decrease the aesthetic value of the public area.

Vegetative buffers: Tall grasses, shrubs, and trees can be incorporated at the water-turf interface. Vegetation must be 24" high, at least 25' wide, and dense enough to prevent geese from seeing through it. The Canada goose prefers open space to see predators, and obstruction of this view is a deterrent that may encourage relocation. Vegetative buffers also remove pollutants and stabilize the shoreline.

Rock barriers: Geese choose water-land routes that allow them easy access and a clear view. Placing rocks near the shoreline to obstruct their path can be helpful in making the area less desirable to geese—especially if the rocks are paired with a vegetated buffer. Using rocks and vegetation along the shoreline also has the benefit of being aesthetically pleasing and protecting the shoreline from erosion.

Reducing adjacent turf: Geese prefer lush, mowed turf and altering turf can make the area less favorable to geese. Property managers can eliminate fertilizer applications, stop watering, keep turf at a height of 8", or change the grass cover.

Studies have shown that zoysiagrass was less grazed by monitored geese when other turf grasses were present. Adult Canada geese foraged most on turfgrasses including Kentucky bluegrass, creeping bentgrass and fine fescue that had a relatively higher protein (or nitrogen) content. Centipedegrass and St. Augustinegrass are recommended for reseeding and vegetation projects where Canada geese are unwanted.

Barrier fencing: Canada geese are more likely to land in water, and then access the land to graze. Therefore, barrier fencing is an important tool to deterring resident Canada geese populations from settling. Examples of fencing material are chicken wire, woven wire, plastic construction fence, electric 2-wire, chain-link, or rock. Openings in the fencing should be no larger than 3", must be at least 24" tall, and extend far enough so that geese do not simply walk around the fence.

Plastic fencing can be used on an interim basis while the shoreline buffer is being established. Paired with educational signage to increase awareness, this fencing will let users of the area know that the landscape is being altered to protect water quality and change geese behavior.

Overhead lines: A network of lines of wire or twine stretched out 2' to 3' above the water surface on the shoreline or within an established buffer zone have been successful at deterring geese from coming to the water body to nest. The system can be emphasized by adding deterrent “flags” to prevent geese from flying in to this zone. Flagging can be done by tying bright color plastic ribbon to twine in each section of the grid (white ribbon has demonstrated effectiveness locally).

A fence must be used in tandem with an overhead line so geese just don't walk in underneath the lines. Downfalls to this method include sagging grids, broken lines, visually distracting, restricting water access for people, and having the ability to injure birds by entrapment. Again, this method can also be seen as interim as a buffer zone becomes established.

Repellents: There are several goose repellents on the market that make grass less palatable. The repellents, which are sprayed directly on the turf, do not harm the geese, and the public typically accepts this method as a viable management option. The active ingredient in the repellent is methyl anthranilate, which is non-toxic to humans, dogs, and cats. Using repellents is not a one-time solution. The products only work for a limited time and while each product is different, repellents are usually applied every 4-5 days (unless there is a heavy rain event, which will require more frequent repellent application).

2. Changing Human Behavior: Stop feeding the geese!

Educating community residents on the problems associated with feeding geese can be a clear first step in geese population management.

One reason the geese population can grow so rapidly is that humans supplement their diet. The environment



High fiber foods such as bread that people feed to geese does more harm than good. High fiber foods are difficult for geese to digest and can harm their simple digestive system. Residents can protect wildlife and water quality by not feeding geese.

contains enough food for a small, manageable population of geese. The geese do not need to be fed.

In fact, the bread that humans feed geese is rich in nutrients and fiber, the latter of which Canada geese have a difficult time digesting. Therefore, feeding Canada Geese actually negatively affects their health. Creating a new social norm of being responsible for wildlife health by not feeding them could be very effective.

To address the education issue of feeding geese, communities can employ tactics such as including signage at known goose congregation spots or by implementing “no-feed” ordinances.

3. Changing Geese Behavior and Introducing Deterrents

Changing geese behavior through deterrents generally refers to the use of visible, auditory, or trained dogs that pressure the geese into leaving the problem area.

Communities are allowed to implement deterrents without a permit, as long as the geese are not purposefully handled by a human or other animal (such as by a dog). Deterrents are usually seen as favorable methods to the public because they are not directly harming the geese. However, if the deterrents become disruptive in noise or to the aesthetics of the natural area, the public may find deterrents less acceptable. The negative to using deterrents is that geese are highly adaptable and can quickly become accustomed to the deterrents and cease being scared away. Research recommends employing deterrents as soon as possible since they can stop geese populations from increasing to even more unmanageable levels. Deterrents include:

Noisemakers: These have been most effective in less populated areas since it can be disruptive to the public. Noisemakers are often triggered automatically and often consist of pyrotechnics such as propane cannons, bangers and screamers, firing blanks, sirens, air horns, whistles, and recorded goose distress calls. Before utilizing any noisemakers, consult the local police department and inform neighbors. The Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) requires a Federal Explosives Permit for the use of certain types of pyrotechnics so consult authorities before using these. When using any of these devices, please inform local police, wildlife enforcement officers and neighbors as to your actions. Also check local ordinances to see if these devices can be used in your area and/or if any special permits are needed. Some of these devices can be dangerous when used improperly. Follow instructions and use eye and ear protection when using scare pistols and cannons.

Visuals: Visual devices have the advantage of silently addressing the issue and may be more suitable in urban or suburban areas. In such highly populated areas, visual devices do have a higher chance of being vandalized and could require frequent monitoring. Common visual deterrents are:

Mylar or “scare” tape: Scare tape is red on one side, silver on the other, and about ½ inch wide. It can be used as a streamer (for flying geese) or in a fence arrangement

(for walking geese). Scare tape could be a problem if there are large populations of deer, dogs, and children that may disrupt the fence arrangements.

Flags: Flags can consist of garbage bags on poles, Mylar strips on poles, or plastic bags attached to a cross pole. Flags can discourage geese from landing.

Remote controlled aircrafts: This method is primarily used at airports. This method can be an expensive option, but there may be local hobby clubs whose members are interested in using their skills to assist in a community project.

Remote controlled boats: This should be strictly used as a deterrent, and contact with a goose or any wildlife should be avoided.

Other frightening animal introductions: Dogs, swans, and falcons have all been used as deterrents in geese management. For the most part, dogs are the preferred choice for small-scale community geese management projects. Dogs, especially border collies, are common deterrents in golf courses and other corporate areas. Frequent introduction of the dog(s) is necessary since the geese will return shortly after the dog has left. Trained handlers must supervise the dogs at all times. In areas where geese frequent, dogs have been kept in the area by an invisible electric fence; this has shown to be a working deterrent.

4. Eliminating Geese and Controlling Reproduction

There are clear advantages to directly removing geese and halting reproduction, but this method is oftentimes the most challenging to implement due to the lack of buy-in from community members. Some stakeholders may feel the practice of eliminating geese or tampering with their reproduction inhumane, and it could become a controversial animal welfare issue. The methods below are examples of techniques to directly address the population growth of the geese:

Capturing via round-ups: Under certain conditions, Wildlife Services will capture geese to alleviate damage. The captured problem geese will be euthanized and made

available to food banks. This population management option is available only to urban/suburban areas where hunting and other control methods are impractical or unreasonable. The citizens, business, homeowner association, or local government requesting the capture of problem geese must reimburse the government for capture, processing, and transportation of the geese.

Relocation: There are some examples of relocation being successful in urban/suburban areas; however, this method is not permitted in South Carolina.

Hunting: Any interest in harvesting should include in the strategy's timetable activities that address public education, outreach, and buy-in. Federal (e.g., the Migratory Bird Treaty Act of 1918), state, and local laws must be consulted, and local law enforcement coordination is necessary. Research shows that managed geese hunts have been some of the most successful and cost-effective methods to removing nuisance geese.

When damage is occurring outside of city limits or other "sanctuaries", legal hunting is a very successful means of alleviating goose damage. In rural areas where geese are a problem, adjacent landowners may consider combining efforts to allow hunting on a series of farms, lakes or ponds. Because seasons last only a few weeks, hunting in itself is usually not enough to disperse birds for a long period of time; however, successive years of high hunting pressure may limit or reduce populations thereby making future goose damage more tolerable. Hunting resident geese is allowed throughout South Carolina during several Canada goose seasons. Check regulations each year to determine exact season dates, bag limits and other regulations for your location. A Federal migratory bird stamp, appropriate state stamps and licenses and non-toxic shot are required to hunt Canada geese.

Reproduction control: If geese survive their first year, they have a lifespan of 20-25 years. If directly addressing the adult population is not viable, another alternative is to reduce the rate of reproduction, but this can be labor-intensive and costly. Population models have shown that mathematically, a resident goose population could remain stable even if 72% of the eggs are removed. Further, even

if 95% of the eggs were removed, it would take ten years to reduce the population to a level that was 75% of the original.

Egg destruction: The US Fish and Wildlife Service (USFWS) has adopted new rules for managing resident Canada geese including a nest and egg depredation order for resident Canada geese that authorizes private landowners, public land managers, homeowners' associations and local governments to destroy resident Canada goose nests and eggs on property under their jurisdiction when necessary to resolve or prevent injury to people, property, agricultural crops or other interests. **The order does not authorize the killing of any migratory bird species or destruction of any nest or eggs other than those of resident Canada geese.**

During the period March 1 to June 30, egg destruction by oiling, shaking (addling) or puncturing may be used. Egg addling or oiling should take place after the female has laid all her eggs. When addling eggs, visit all known goose nests and shake eggs vigorously, thereby making embryos unviable. Return eggs to nest, taking care not to destroy the eggs. Geese should return and continue incubating for addling or oiling to be effective. Geese will eventually abandon nests, but probably will not re-nest that year. Spraying eggs with corn oil will block oxygen transfer and will provide the same effect as egg shaking. Only corn oil can be used because other types of oil are not registered for this use. Keep neighbors apprised of your plans or at least consider how they may feel about this technique. Relocation of nests or eggs is not permitted.

Further, if you are concerned with the timing of egg destruction and embryo development, there is a simple float test that can be used that is referred to as more humane by PETA and the Humane Society. If the egg floats in a bucket of water, these agencies recommend that the egg not be oiled because it is developmentally too far along. Eggs that sink are in the early stages of development, and once oiled, will not mature or hatch.

Landowners are required to self-register with the USFWS via the Internet at <https://epermits.fws.gov/eRCGR/geSI.aspx>. No permit is required from the South Carolina Department of Natural Resources. A how-to video about egg oiling is available at <http://www.youtube.com/watch?v=2CLIL-381Lw>.

- Addling: Shaking the eggs.
- Puncturing: Poking a strong, sharp pin through one end of the egg; harmful bacteria then enters the egg. This method is time-consuming, but allowed.
- Oiling: Brush, spray, or dunk the eggs in 100% food grade corn oil to create a film over the shell that will prevent oxygen gases from entering the embryo.

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For More Information:

For more in-depth information, please refer to the Internet Center for Wildlife Damage Management (www.icwdm.org).

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More information can be found in Part One *H20-013 Resident Canada Geese: Concerns Along the Waterfront*.



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